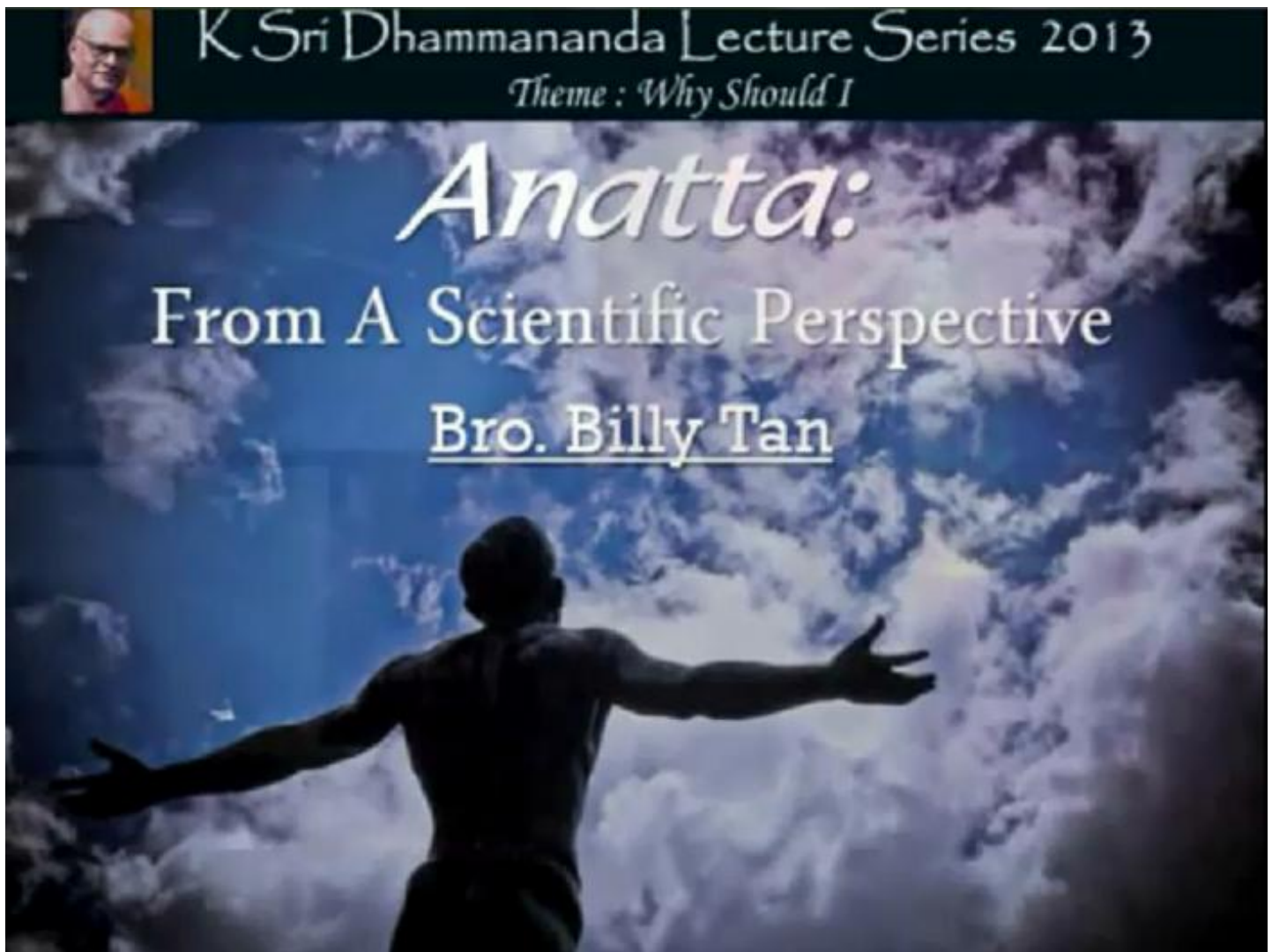


Impersonality ***“Anattā”***

Commonly Translated as
“Non-Self”

Bro. Billy Tan is a Professional Trainer and Business Development Consultant who has trained countless corporate executives and business professionals in more than 20 countries over the past three decades. Bro. Billy is a Certified Master Practitioner of Neuro-Linguistic Programming (NLP), and a Certified Six Sigma Black Belt practitioner, as well as being certified by the International Association of Counselors and Therapists, USA, in Clinical Hypnotherapy. Bro. Billy Tan co-authored the business book entitled "The Streetwise Marketer: Marketing Leadership Approaches They Don't Teach At Business Schools" published by Malaysian Institute of Management (MIM). In recent years Bro. Billy has conducted several professional training programs for resident and visiting Monks at the Buddhist Maha Vihara, Brickfields, in the areas of Emotional Intelligence, Communication, Professional Presentation, Public Relations, Community Services, Leadership, and Management. In sharing the Dhamma, Bro. Billy researches discoveries from the fields of Neuroscience and Psychology to present teachings of the Buddha from a scientific perspective. Currently, Bro. Billy offers talks, seminars, workshops and professional training programs to Buddhist community centers and charity organizations.



ANATTĀ: From a Scientific Perspective

Transcript & Slides

<https://www.youtube.com/watch?v=dnyFL4Hj6no>

Exploring scientific explanations on how personalization of the body and its experiences give rise to clinging and attachment ("*upādāna*") that lead to the mental construction of a subjective "Self".

The word “*anattā*” has been translated, mistranslated, re-translated in so many different ways; explained in so many different ways. This presentation is not going to try to explain it in some of the traditional ways. The presentation will begin by trying to explain it from the scientific perspective.

What the scientists are saying about this thing called “Self”. So this presentation is going to explore these scientific explanations how we personalized our body and our experience of the body and that gives rise to this notion that there is a “Self”, and that leads to this mental construction of the “Self”. This is what the presentation is going to cover today. This presentation will touch a little bit on some of the teachings Venerable Punnaji has taught about how the “Self” arises from the Buddha Dhamma perspective towards the end, so the first half of the presentation will be very much on the scientific perspective.

So if we go back in time, once upon a time, what do people think what is the center of the universe, in ancient times, long ago people thought the earth is the center of the universe. They continue to think that way for thousands of years.

*Once upon
a time...*



Until 500 years ago, two well-known philosophers, Copernicus and Galileo, they began to explore and they began to peep into the universe and into the skies with telescopes and what did they find. Galileo basically came to a conclusion the “Sun is the center of the Universe”.

16th Century AD...



At that time the Universe basically meant the solar system. They didn't know about other planets outside the solar system or other galaxies.

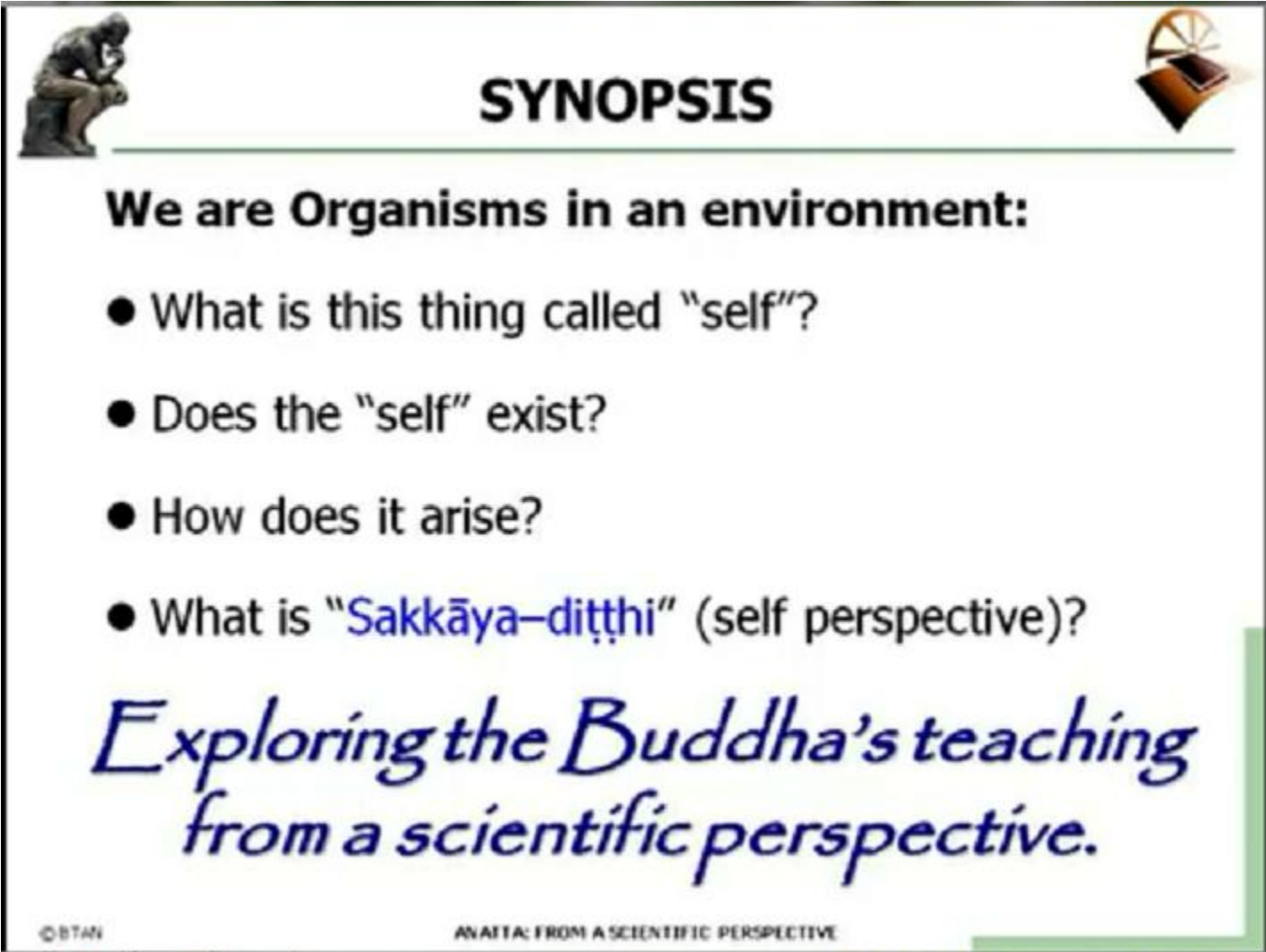
But what happens now today, 21st Century, where is the center of the Universe? Where do you think it is? Everybody thinks he is “I am the center of the Universe”. It's “I”. The notion of “I” is becoming so strong, so powerful now that everything is centered around the "Self".



The word *anattā* one of the translations is very confusing; it's called "Non-Self". When the first time the presenter looked at the word *anattā* some years ago, and it was translated as "Non-Self"; the presenter was totally confused. What is the meaning of "Non-Self"? Either you have a "Self" or you don't have a "Self". You don't have a "Non-Self". So it was quite confusing for the presenter. But fortunately with the help of Venerable Punnaji and also doing a bit of research into the scientific explanations, I gained a much better understanding of what this thing called "Self" is and how it arises?

So in a nutshell, we are going to cover a little bit a few important points. One of the important points is "We are an organism in an environment". That means we are all operating, interacting, surviving, aging, and suffering in this whole environment. We are organisms. Animals are organisms. Plants are organisms. Bacteria and cells are organisms. So we are organisms in an environment. So that leads us to a few very important things to talk about because of this idea of the "Self". How does the "Self" fit into this "Organisms in the environment"?

So what is this thing called "Self"? It is one of the questions we always ask. Another question is the "Self" exists. Is there an existence of the "Self"? Another question very commonly asked is how does it arise? How does this "Self" arise? What we can explore, very easily to understand this is the notion of "*Sakkāya-diṭṭhi*"



SYNOPSIS

We are Organisms in an environment:

- What is this thing called "self"?
- Does the "self" exist?
- How does it arise?
- What is "*Sakkāya-diṭṭhi*" (self perspective)?

*Exploring the Buddha's teaching
from a scientific perspective.*

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This is the first of the ten fetters. "*Sakkāya-diṭṭhi*" basically means the "Self perspective"; the idea that "I own this body and this "Self". So we are going to explore the Buddha's teachings from a scientific perspective. This is what the presenter specializes in. The presenter does research into science and brings information from science to explain quite of a lot of things Buddha had taught. And of course a lot of it thanks to the guidance and teachings of the most Venerable Punnaji.

So when we speak of the "Self" there are many perspectives to look at. The presenter is not saying they are all right; the presenter is just point out these are the various perspectives people look when we speak of the "Self":

- First there is this religious perspective. And there is this question that is often asked. Is the "Self" the same as the soul? The presenter is not going to answer the question here, but the presenter is just pointing out the various perspectives of what people speak of when they talk about the "Self".
- Another one is anatomically speaking, the body; the biology, does the "Self" exist in the brain? Does the "Self" exist in the heart? Or the body or both or all? So that is another question often asked.
- Another question asked is neurologically inside the brain? Because a lot of people especially the psychologists and some of the philosophers, they say the "Self" is found in the brain somewhere. So another question is which brain function is responsible for the defining and determining this idea of the "Self". Is there a brain function that does that?
- And then we also can speak of it from the conceptual point of view. Conceptually, is the "Self" an emotion? Or is the "Self" a concept which is an idea. Or is the "Self" some kind of rational conclusion that we conclude there is this thing called "Self". So these are the various things we asked.
- And add one more evolutionary this is also often mentioned by some scientists that only the human beings are capable of conceptualizing this thing called "Self". But again, the modern scientists are also pointing out to animals behaving in such a way as though there is a "Self". Especially those animals that are domesticated in homes. The dogs are treated as part of the family. They begin to behave as though they have a "Self" or some sort. So is the "Self" exclusively evolved only in the human beings?

So these are all simple little questions but they all have one simple flaw. They are all looking at the "Self" as though it is some kind of an object; the objective view of the "Self". But in reality the "Self" is not an objective view. And that is what the scientists have concluded. The presenter is going to show some of the examples, some of the research, and experiments by the scientists.

So that's what we are going to cover what is the "Self" and how does the "Self" arise from a scientific perspective?

So let's explore. What is "Self"? Is it an entity, is it a thing, or is it a concept which is an idea? In reality "Self" is not an entity because when you say entity it exists; there is an existence, so there is no existence. Nobody can prove the existence of a "Self". Although there are various religions that say this thing called soul that is a "Self" that defines a "Self". Some people keep them separate or some people refer both the same.

But there is no way we can point to something and say this thing this entity is a "Self" there is no such thing. Another thing is it is not a rational concept. There is no reason and logic behind it.

If there is people would have explained it and everyone would have understood it. Logic is one of the easiest things to understand in the world. $1 + 1$ is 2. No one can doubt that. But no one can logically explain and reason out what is the "Self". So "Self" is also not a rational concept. Logical concept it is not.

"SELF" is an emotional concept...

It arises with our emotional reaction upon sensing the environment.

What is it? It is an emotional concept. It arises with our emotional reaction upon sensing the environment; the moment we sense the environment, we begin to react and that reaction is an emotional reaction. All reactions to the environment are emotional reactions. Reacting to senses, the sense, the feeling of the sense: whether pleasant, unpleasant, and so on...

So it is an emotional concept that arises with our emotional reaction upon sensing the environment. And it arises not by itself; it arises in conjunction with societal, as well as environmental interactivity. That means the more we interact with people in the environment and with society, the stronger this idea of "Self" becomes. So In another word, it arises it is reinforced together with interactions of the society. And more importantly to a lot of people this idea of "Self" is our attempt to rationalize this subjective experience.



What Is "Self"?



An "entity" (a "thing"), or a concept (an "idea")?

- Not an entity – it does not "exist"
- Not a rational concept – no logical basis for arising
- An emotional concept – arises with our emotional reaction upon sensing the environment
- Arises in conjunction with societal and environmental interactivity
- Our attempt to rationalize the "subjective experience"

So the "Self" is really an emotional reaction. It is a subjective experience. But we try to rationalize it or people try to rationalize it.

So we begin with this classic question "Who am I?" "I am an organism in an environment". Human beings are organisms, animals are organism, plants are organisms, bacteria and cells are organisms: living things.



WHO AM I ?



❖ I am an Organism in an Environment

1. **METABOLISM :**
Life sustaining process;

2. **CONSCIOUSNESS :**
Experiencing the Environment through
5 physiological senses;

- SIGHT
- HEARING
- SMELL
- TASTE
- TOUCH



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ANANTA: FROM A SCIENTIFIC PERSPECTIVE

And as organisms we undergo a process called metabolism which keeps us alive. And with this process of being alive; we have 5 senses to interact with the environment, to sense the environment, it helps us experience the environment though seeing, hearing, smelling, tasting, and touching. Basically that is what we are; that is all we are “Organisms in an environment”. And the environment is so complex today. So the presenter will just run through the Process of Experience; how we experience the environment. The presenter has spoken this in a number of times. And the presenter will run through it one more time for the benefit of those who have not heard it before and also for the benefit of those who have; it would be a good refresher.



PROCESS OF EXPERIENCE



❖ **Experience is a Chain-Reaction:**

•SIGHT
•HEARING
•SMELL
•TASTE
•TOUCH



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ANATTA: FROM A SCIENTIFIC PERSPECTIVE

Process of Experience How We Experience the Environment

- The environment continuously stimulates our sense organs
- Light falls into our eye the moment we open the eye
- Sound waves hit the ear drum and create auditory signals going to the brain and then we begin to hear something
- And the moment the odor molecules enter the nose and hit the sense receptor we begin to smell something
- A touch of the tongue we begin to taste something
- The skin sensory receptor under the skin comes into contact with some surface hot cold soft then we have a sense of touch

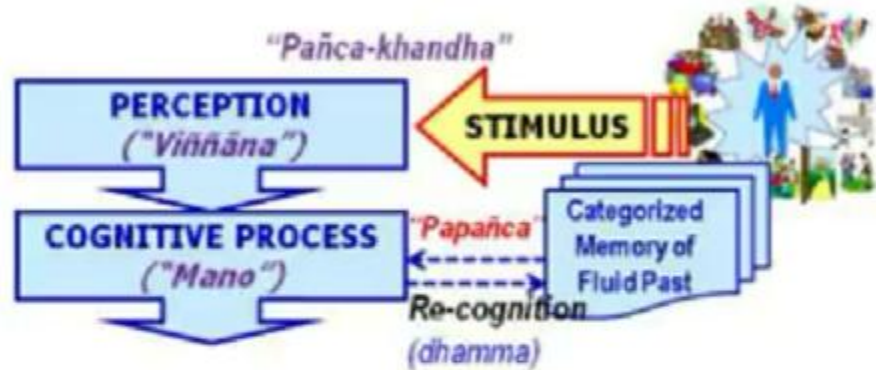
So the environment continuously stimulates our senses. **And with this stimulation of senses arises a process called “Pañca-khandha” or the 5 aggregates.**



PROCESS OF EXPERIENCE



❖ **Experience is a Chain-Reaction:**



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The presenter is not going too deep into it but will touch up on that later on just to explain the process of 5 aggregates.

And that, “Pañca-khandha”, gives **rise to a Perception** there is something out there and this is **the Perception that arises as the result of this 5 aggregates**. There is something out there; we have sensed something. What is it? Now with this sense, sensing of something, **arises a Cognitive Process to try to interpret what it is**. And we interpret what it is by referring to the memory of categorized past or the categorized memory of the fluid past. Whatever we have experienced in the past we actually used that, acknowledged that memory unconsciously to compare what we have just seen, heard, smelt, tasted, and touched and arrive at the conclusion what we have seen, heard, smelt, tasted, and touched.

Simple little example, you walk down the shopping mall. In the distance you see someone. You see a lot of people walking towards you because you don't know these people, most likely you have never seen them before you don't pay attention; they walk past and you don't think about it. And then coming towards you from the distance approaching you is somebody who looks like your neighbor and suddenly you're alerted and you turned your face and stared at the person and paid more attention to the person and something comes to your mind. This might be my neighbor or looks like my neighbor. Why? How did that happen? That is because of memory. You have seen that face before something similar to this face. Everything we have seen, heard, smelt, tasted, and touched in the past is recorded in memory not precisely as it is but in a categorized manner, and most of the time through association.

So all this is memory recorded in a categorized manner so the moment we see hear, smell, taste, and touch something, the unconscious memory arises to try to interpret what it is that we have just seen heard, smelt, tasted, and touched. That is why we recognized this neighbor so to speak. Because his face looks like somebody we know, but if it is face of a stranger you would not pay attention because you have not seen that face before, it doesn't ring a bell so to speak. So because the face looks like the neighbor it rings a bell. For all you know it might not be your neighbor, it could be somebody who looks like him. And then certainly you realize, false alarm, it is somebody else. Or it could be exactly him and suddenly you get excited.

So this is what happens; we interpret by using memory. To explain firstly to our "Self" unconsciously; this is happening unconsciously to interpret what is this and then together, it arises the Affective Process.

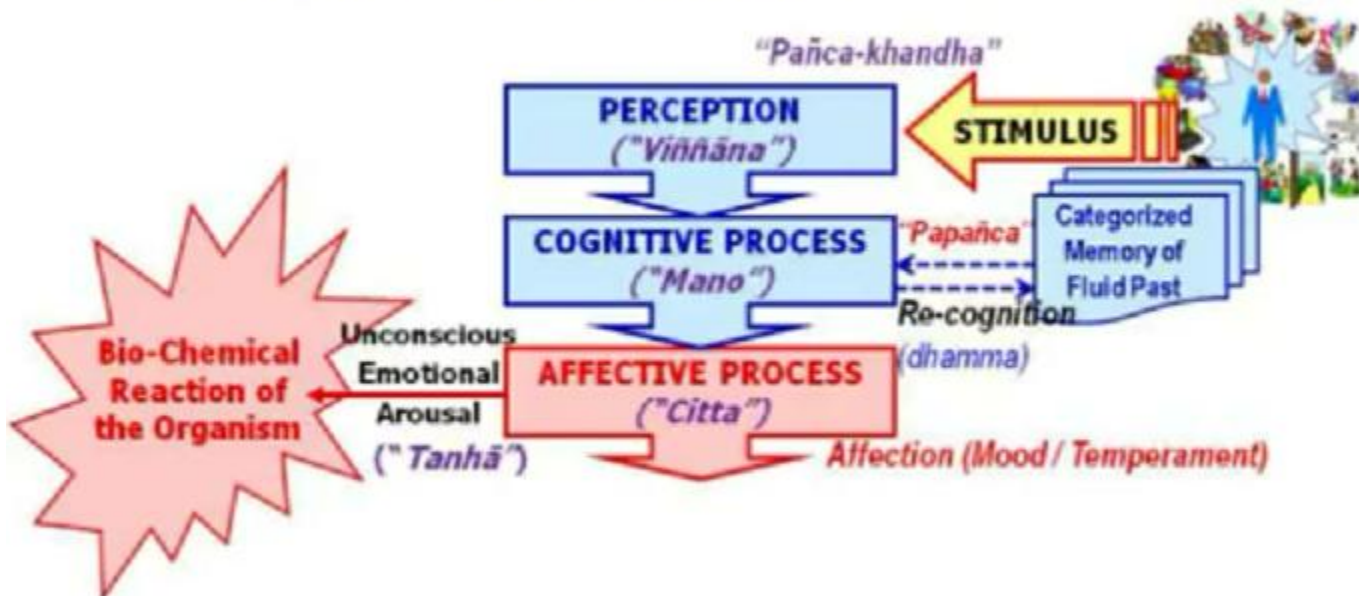
And then this Affective Process tries to interpret how we like it or don't like it. How this Perception affects us? So with this Affective Process arising, it triggers an unconscious emotional arousal, then the emotional arousal triggers a series of biochemical reaction, the release of hormones, and then it comes to us as some kind of an attention in the body and we begin to experience this. So anytime you see hear, smell, taste, or touch something, a biochemical process happens in our body, every single thing, there is no exception, the only difference is some of these biochemical reactions maybe so mild that you don't even notice but some can be very severe.



PROCESS OF EXPERIENCE



❖ Experience is a Chain-Reaction:



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Presenter can easily trigger the audience. "For those of you who are familiar with other types of food I say wasabi, and then you feel this spiciness in your mouth. I can even go one step further; think of the time you were in school primary school we used chalk board not like today they use mark pens. Those days chalk board with the chalk; and this chalk board and you know the teachers have very long nails. And what do they do? They scratch on the board and they make this squeak sound. How many of you right now are feeling this tingling sensation. Yeah? Yeah? You felt the tingling sensation? Precisely!"

That is the biochemical reaction; you see you've just heard me say something described something and you feel the biochemical reaction; so we cannot escape this.

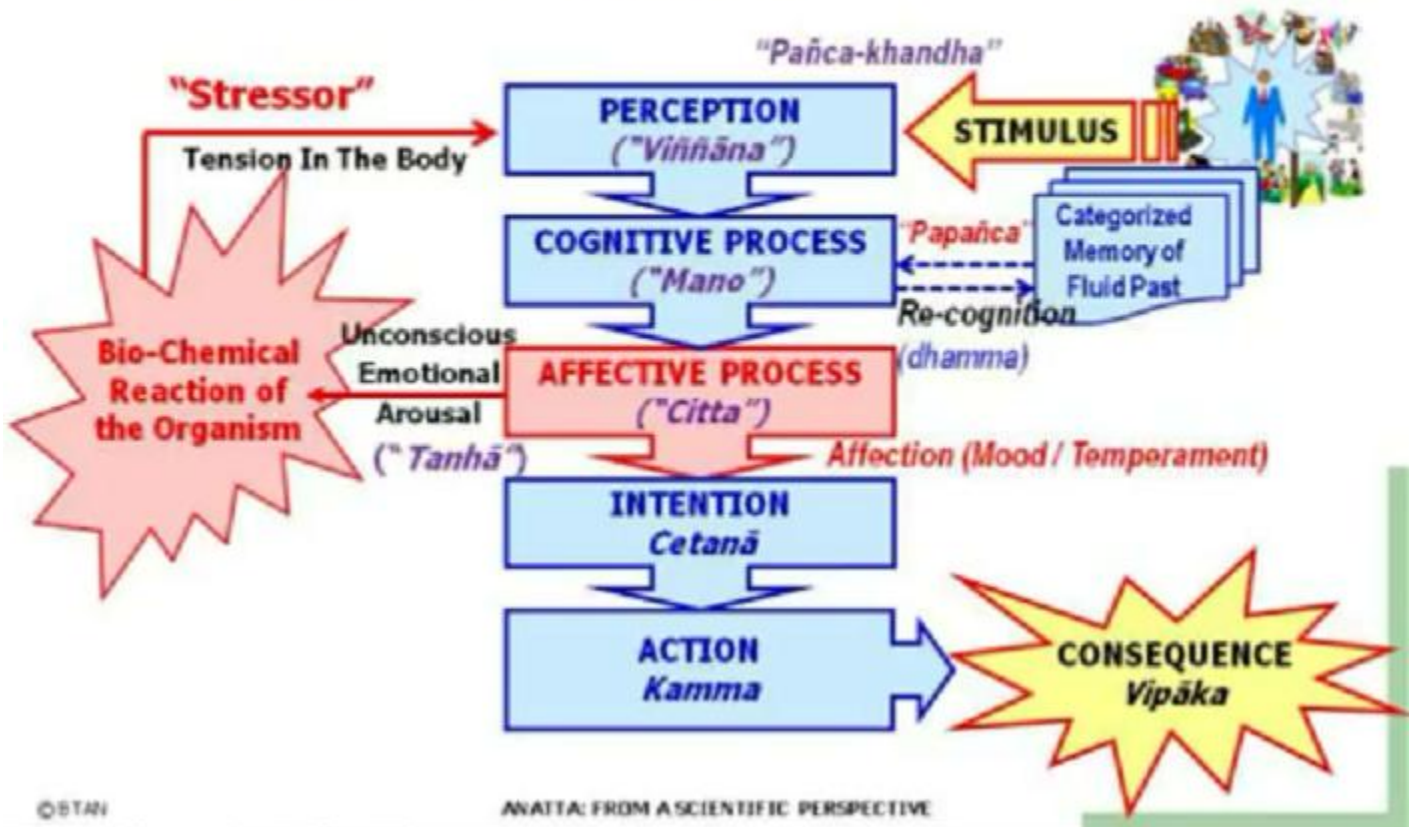
The moment we see hear, smell, taste, and touch something a biochemical process arises; the only difference is whether it is too strong enough for us to realize it has arose; sometimes it's so weak we don't even realize it. Sometimes it is so strong we react to it. This tingling sensation and this chalk board thing, some of you still be feeling the chalk board effect. So that is very serious. So we have this biochemical chain reaction and then we begin to want to react to it.



PROCESS OF EXPERIENCE



❖ Experience is a Chain-Reaction:



We form an intention consciously or unconsciously. And we begin to react to it. And the action we take in reaction is *Kamma*. So that is really the Process of Experience; and then creating a consequence *Vipāka*. So basically this is the Process of Experience of what happens.

So when we see hear smell taste and touch what happens in our mind? We take this simple example; this lady looking at the dog.



The Experience of "Seeing"



- Experience arises dependent on the presence of necessary conditions:



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ANATTA: FROM A SCIENTIFIC PERSPECTIVE

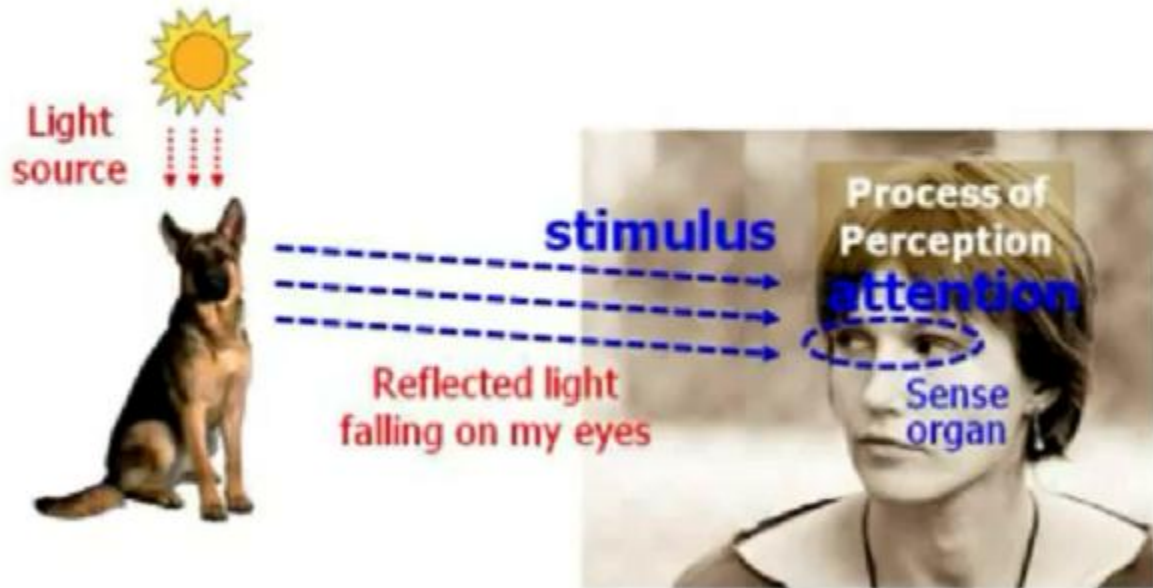
Whether she sees the dog or not is dependent on the present of the necessary conditions. The first condition she must be facing the dog. If she is not facing the dog she won't see the dog. The second condition her eyes must be opened, another condition the dog must be out there. If there is no dog then there is no dog to be seen. And then what happens seeing is not really something that an object is coming into your eyes. Seeing is purely light reflected from the object entering your eyeball, picked up by the retina in the back of your eyeball, so you need light. If it is complete darkness you can't see. So in another word seeing is also dependent on the present condition of light. And light is reflected it enters your eyeball. Your eyeball must be opened and must be working. If you have damage eyeball or you are blinded then you are not able to see. So therefore this light is entering to your eyes is a stimulus.



The Experience of "Seeing"



- Experience arises dependent on the presence of necessary conditions:



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ANATTA: FROM A SCIENTIFIC PERSPECTIVE

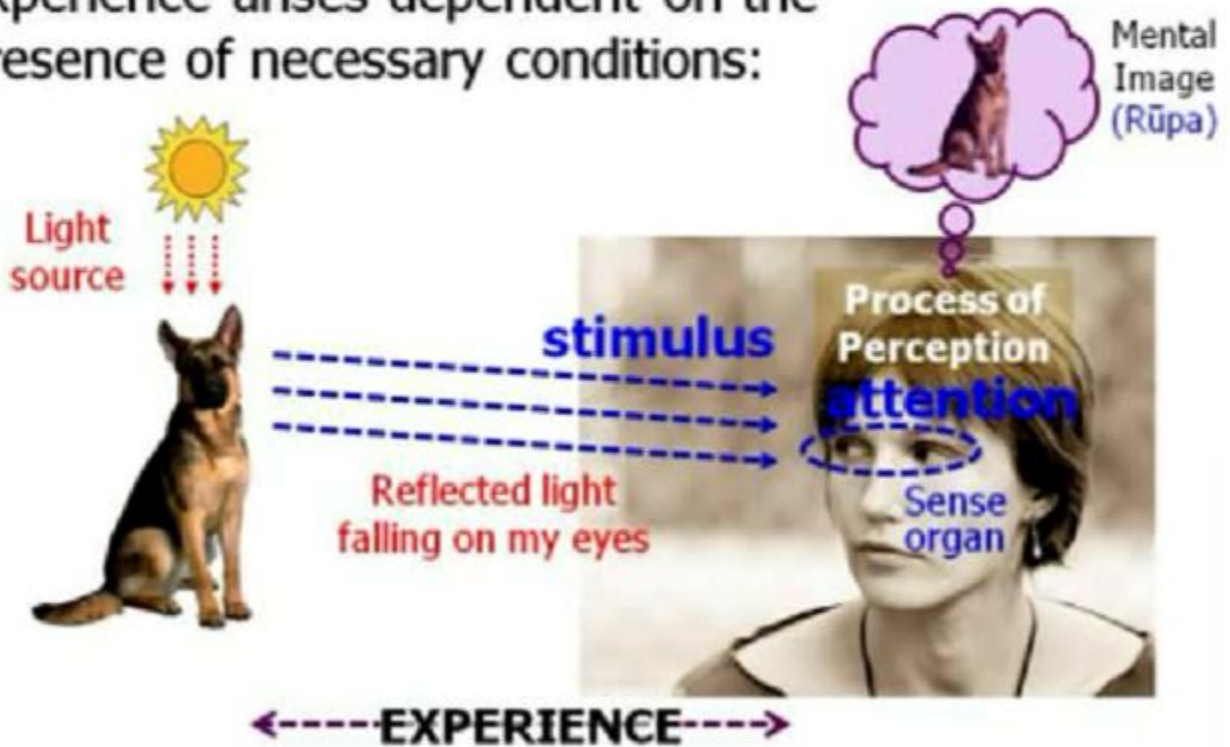
Your eyeball is a sense organ it must be in a working condition. And then you must be paying attention. This is why sometimes we may be staring at something and not paying attention. We don't notice what is going on. So paying attention is very important also. And then arises the Process of Perception. And with this Process of Perception the image arises in our head of what we think we see.



The Experience of "Seeing"



- Experience arises dependent on the presence of necessary conditions:



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ANATTA: FROM A SCIENTIFIC PERSPECTIVE

We are not seeing the thing, we are not seeing a thing, what are we are seeing, **we are nothing more than sensing the light reflected from whatever we call a thing**. It is a reflection of light entering our eyes, that all there is, and this image arises. Then it is really the reality what has happened. But unfortunately the way our mind works Affective Process kicks in, something else happens on top of this. This is the reality of what happened, but something else happens in our mind, and that is, **it is the experience**. With this experience we begin to project the image that arises in the head, project as "Oh, there is this object out there." There is this dog out there. The perception of seeing a dog out there, but we are not seeing a dog out there. Our eyeball is just capturing the light reflected from the dog, but our mind creates an idea there is this dog out there. **"Out there" the important word "out there"**.

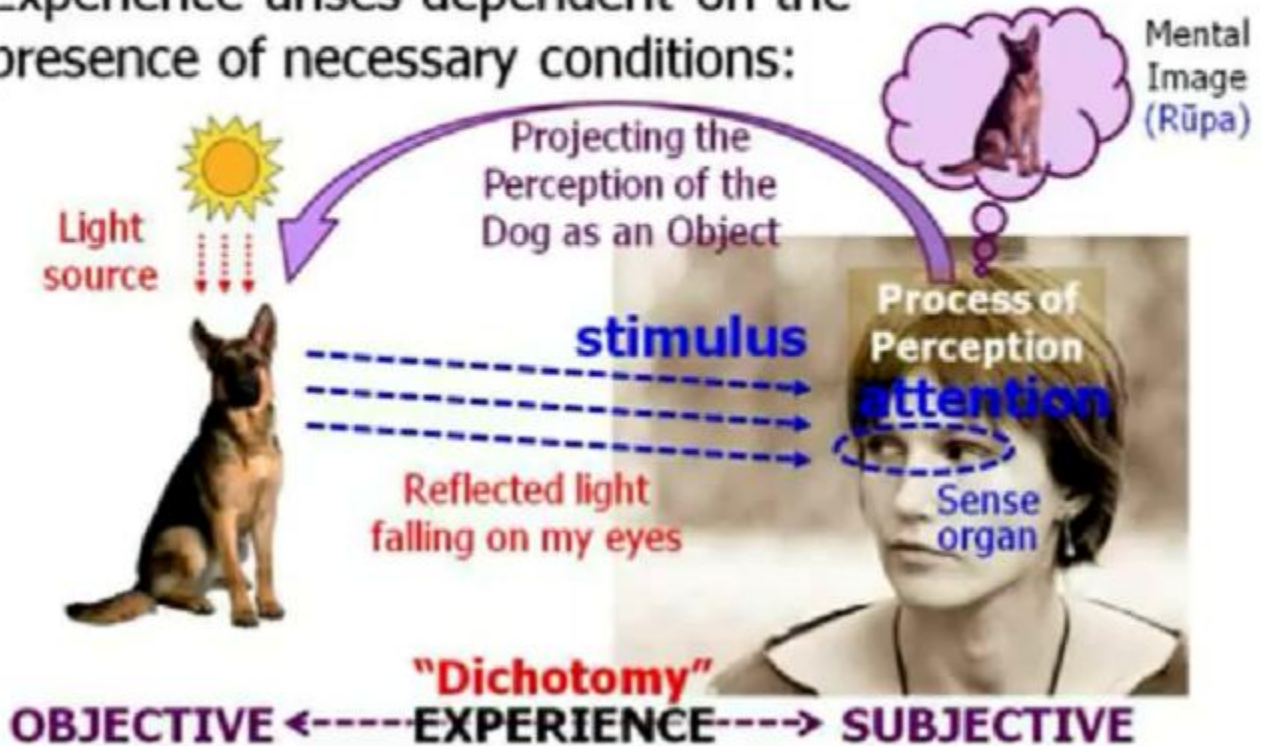
What have we done we have dichotomized the experience out there means it's the objective.



The Experience of "Seeing"



- Experience arises dependent on the presence of necessary conditions:



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In here it is the subjective; that is what we have done. We have in our mind dichotomize. Dichotomize means breaking it into two separate parts. This thing out there which is outside my body. This thing in here which is what I am experiencing, but really all that is happening is just experience that is happening. **We are just experiencing the environment.** But in our mind we are not experiencing the environment. In our mind we dichotomize this experience and say there is a world out there and there is a "Self" in here. **This is how the "Self" arises.** This Process of Dichotomizing, breaking apart every experience, experience that is outside the body and experience inside the body.

What is inside the body is subjective: the body and the mind. What is outside is objective.

So this is basically explaining this term called “*Sakkāya-diṭṭhi*”.

Neuroscience
explains...

Sakkāya–diṭṭhi

How “self” centeredness arises:
Personalization of the body and the
experience of the body as the “self”.



“*Sakkāya*” is made of two words: “*Sak*” and “*kāya*”. “*kāya*” is the body. “*Sak*” means trying to own it. It's mine; the attempt to own this body. So “*Sakkāya-diṭṭhi*” means we are trying to own the body and the body's experience; that is the perspective of trying to own the body. **The personalization of the body and this is how self-centeredness arises. Our attempt to personalize the body, our own body and the experience of the body into an idea called “Self”. That is how it arises.** And scientists have explained this.

I will show you some scientific explanations from the view of neuro-science, brain science, psychology, and philosophy.

First philosophy, many many years ago, a few hundred years ago, there was a philosopher by the name of René Descartes. He came to the conclusion and stated clearly "I think, therefore I am" because he thinks there is this self in him.

"I Think, Therefore I Am"

René Descartes

And he basically also went on to explain that the mind and body are two separate entities so to speak. And even today the modern scientists, physicists; now these are not neuro-scientists physicists, the world most famous physicist. Who is the world most famous physicist? Stephen Hawking. Even a famous physicist like him agrees with that view and even came to the conclusion of saying everything that happens in the Universe can be explained with physics that's it. Physics is physical science. Physics is talking about physical existence of objects in time and in space. Then that is the view of these scientists.

So let's look at what René Descartes and Stephen Hawking have in common.

<https://www.youtube.com/watch?v=dnyFL4Hj6no>

25:15



René Descartes was a philosopher not a scientist and he came to that conclusion and those are philosophers. Let's listen to some real scientists. There is a brain scientist, one of the world most famous brain scientist, Antonio Damasio. He in fact wrote a book called "Descartes' Errors: Emotion, Reason, and the Human Brain", where he explained the nature of emotion, where he explained the mind and the body are inseparable. And this idea the mind and the body are inseparable in a normal being is fully supported in the Buddha Dhamma, which the presenter will be explained a little bit further.



Descarte's Error

Antonio Damasio's book *"Descartes' Error: Emotion, Reason, and the Human Brain"*:

- Wrong to say that the mind thinks independently from the body (*for normal beings*);
- Critical role of "gut feeling" in navigating the endless stream of decision making in human life:
 - Memory of past experiences;
 - Mind's personalization of the body's interior.
- "Gut feelings" lead us to reject certain course of action and thus...allows us to choose from among fewer alternatives.

But let's look at it from a scientific perspective. How the scientists explain the mind and the body are inseparable. It says it is "wrong to say that the mind thinks independently from the body (for normal beings)". It is a critical role, there is a very critical role of this thing called "gut feeling". He calls it "gut feeling" but it is really a combination of emotions and memory of past experiences. And this "gut feeling" arises to help us navigate this difficult decision making process in life, the meaning of life.

So it is this “gut feeling” that helps us to make decisions from memory of past experiences as well as the mind's personalization of the body's interior. There you have it the scientist has stated it. It's the mind's personalization of the body's interior as well as memory of past experiences that help us navigate and make decision in life and give meaning to life. And these “gut feelings” lead us to reject certain course of action or certain course of decisions, which may be rational and good but we reject them. And we choose a more emotional and personalized explanation or decision making. We choose among fewer alternatives. So our mind tries to simplify the world around us by choosing to follow the “gut feeling” which is an emotional thing. So in another word, we may even reject rational explanations and rational reasons for doing something and we choose an emotional reason the “gut feeling”. So that is what Antonio Damasio has stated. And he disputed that René Descartes has made a mistake but for some strange reason the guy Stephen Hawking supports the idea of René Descartes.

Now then Antonio Damasio went on to explain this “gut feeling” in decision making.



So facts and logic is not good enough for us. We want to follow the gut feeling, the emotional basis for decision making.

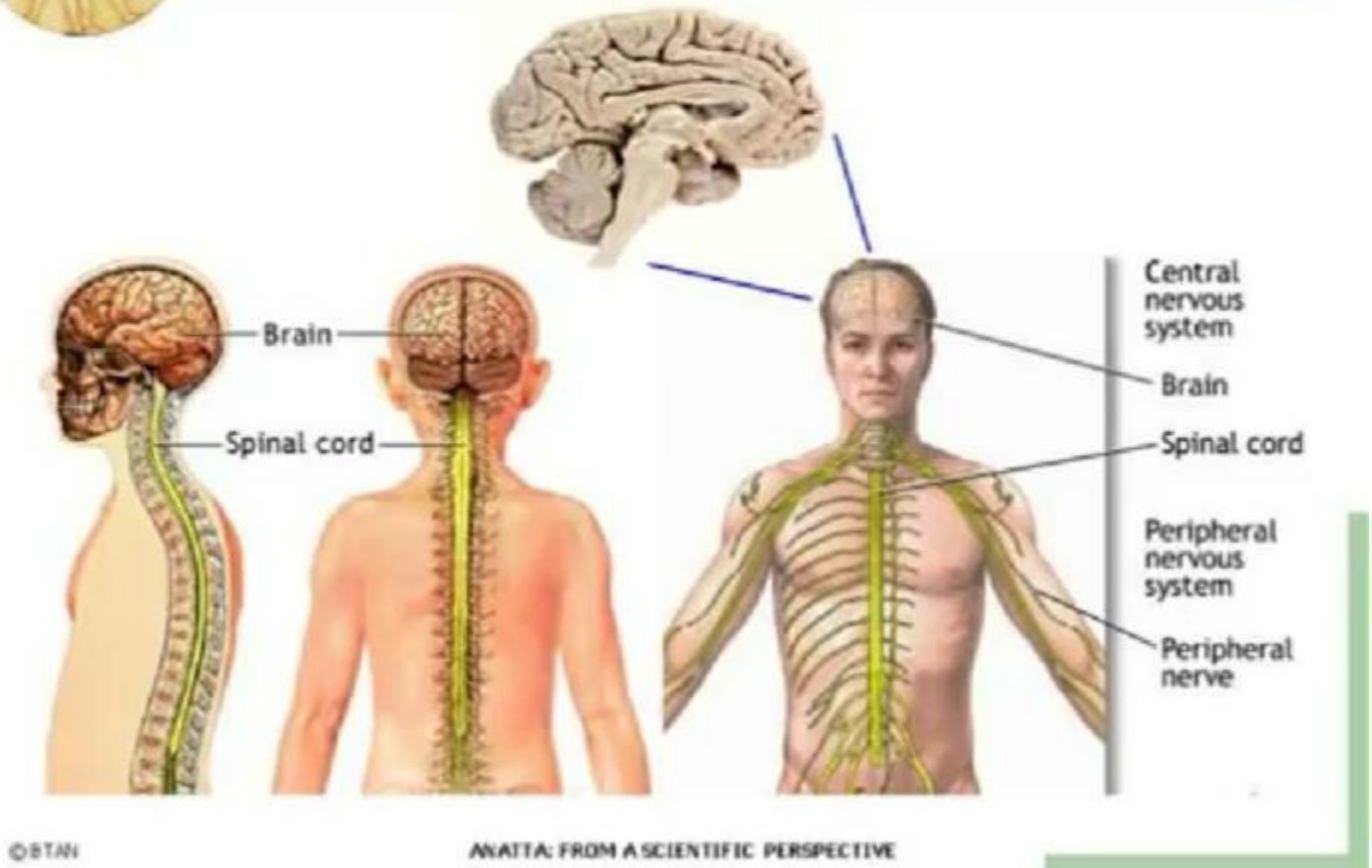
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32:38

So let's explore further about this thing called the brain, the activities of which give rise to the process of the mind. If the brain has no activity there is no mind. So the mind arises as the result of the activity of the brain.



CENTRAL NERVOUS SYSTEM



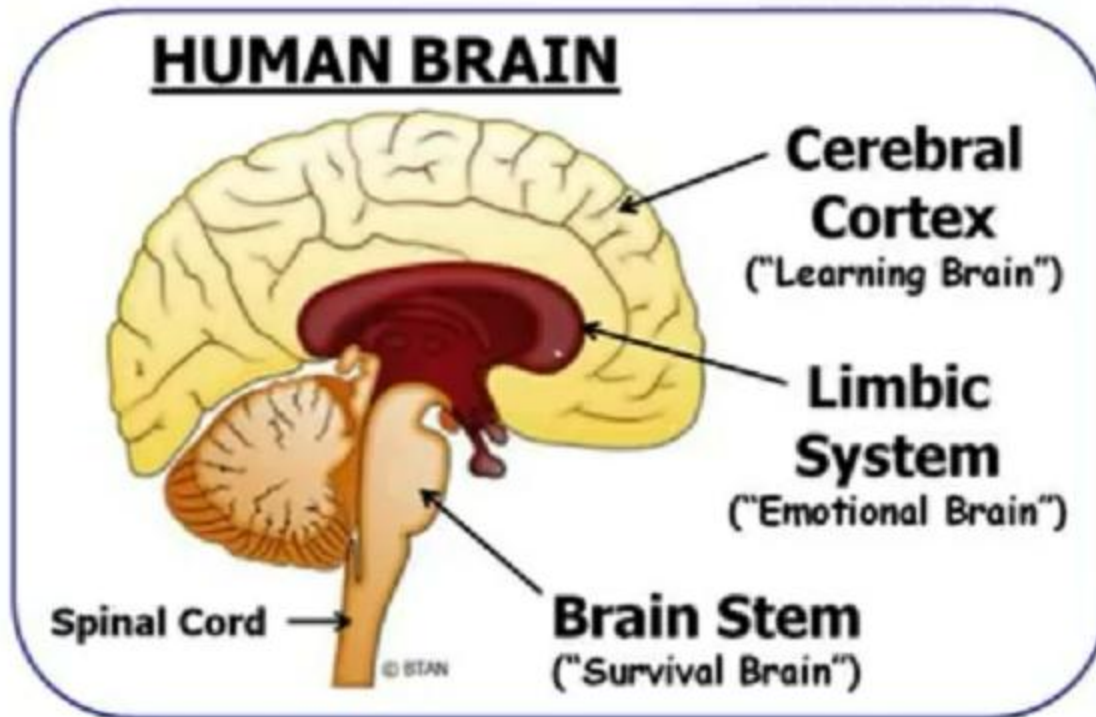
So we experience the environment through the central nervous system, which is made of two parts: the spinal cord and the brain. And with the spinal cord, we interact through our sense organs which carry information to the brain, and the brain processes it and sends messages back down to the rest of body to react to our environment and to our sense perception. So the brain evolved over millions of years into three basic layers, of three main layers:



OUR EVOLVING BRAIN



Our brain evolved over millions of years into **3 main layers**:



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- (1) The oldest part is the brain stem which is responsible for autonomic functions of the body to keep us alive, so the brain stem is the survival brain that keeps us alive. It is not able to think, it reacts autonomously, autonomic functions like breathing, heart rate, blood pressure, digestion, all of these we can't control. It is happening because of activities in the brain stem.
- (2) And then the next evolved part of the brain is the limbic system, and this is an emotional brain that is referred to as emotional brain. It is this limbic system that is responsible for triggering all kinds of biochemical reactions of the body, sending messages to various organs and glands and then from the glands they secrete hormones which then carry throughout the body through the blood circulation system and that makes various organs reacting in specific and special ways according to the hormone and which organ it is. So this is the limbic system, and this is the thing that makes us emotional.

(3) And then comes the latest, the most modern part of the brain, the thinking brain which is found only in higher mammals like the humans, chimpanzees, and so on. And this is the cerebral cortex the thinking and learning brain, the ability to think and learn from the situation.

So this is how the brain has evolved very briefly run through:

- (1) The brain stem - responsible for keeping us alive
- (2) The emotional brain or the limbic system responsible for our emotional command center
- (3) The cerebral cortex - the learning brain responsible for our thinking rational thinking and our learning capability.

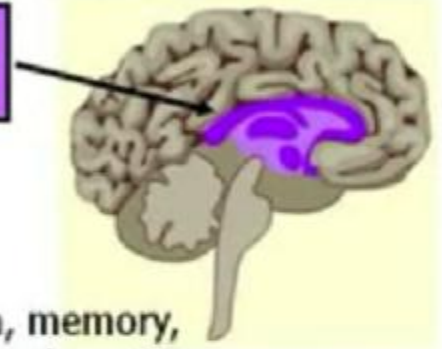


OUR EVOLVING BRAIN



Our brain evolved over millions of years into **3 main layers:**

LIMBIC SYSTEM
"Emotional Brain"



2. Limbic System ("*Emotional Brain* "):

- Middle layer coordinating sensory reception, memory, emotional arousal, and unconscious emotional reactions:
– **our emotional command center;**

So these are the 3 parts but the part that we are most concerned about this point in time is the limbic system the emotional brain.



OUR EVOLVING BRAIN



Our brain evolved over millions of years into **3 main layers**:

1. Brain Stem ("*Survival Brain* "):

- Most primitive part formed at the top of the spinal chord – it governs autonomic (involuntary) physiological functions such as heart-rate, respiration, digestion, blood pressure, etc. **to keep us alive;**



2. Limbic System ("*Emotional Brain* "):

- Middle layer coordinating sensory reception, memory, emotional arousal, and unconscious emotional reactions:
– **our emotional command center;**

3. Cerebral Cortex ("*Learning Brain* "):

- Newest part processing perceptual awareness, attention system, language, logic, reasoning, learning, and decision making:
– **our thinking & learning center;**

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ANANTA: FROM A SCIENTIFIC PERSPECTIVE

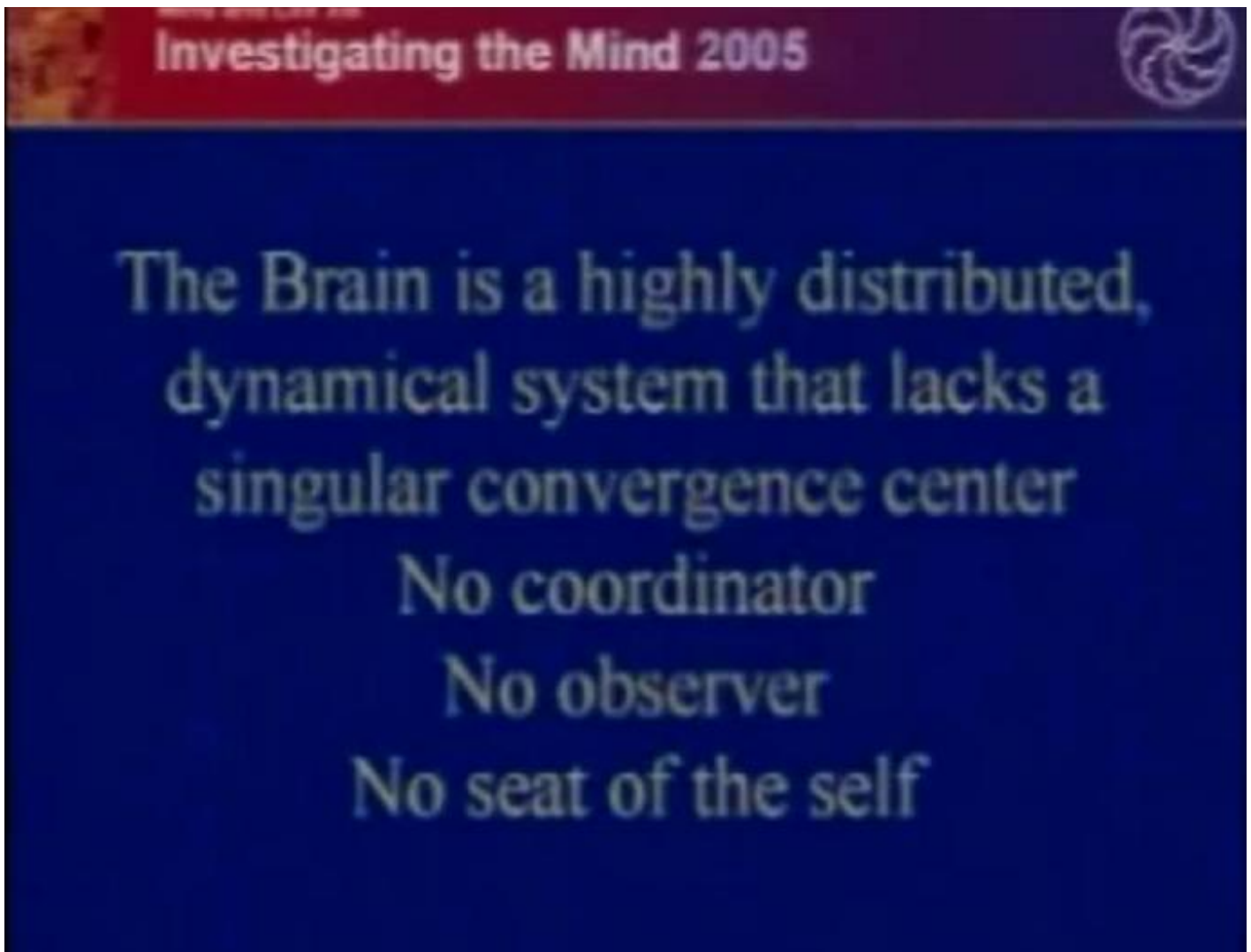
So when something happens and stimulates our sense organs, the sense organs send messages to the brain. The brain processes it. The brain processes any perception through many different parts of the brain. There is not one part of the brain that does everything. When I see an object if I see person, I am not just seeing the person. There are many things happening. I am firstly seeing the contour of this image of this person. Next I am seeing the shades of this person, lighter darker shades. Next I am seeing the various different parts of the person, his glasses, moustache, his ear, his mouth, all the different little details. Next I am see different colors of this person or what is perceived as color, there is no color out there, it is really different frequency of light reflected from his body. His shirt reflects different frequency of light, so I perceived it to have different color, his skin reflect different frequency of light and I perceived to have different color, so the same with his trousers, his spectacles, the face, and the various parts of his face. So there are so many bits and pieces I am capturing of the light reflected from this person. So this is actually being processed in 30 to 50 different parts of the brain not one part. The old thinking is we have a visual cortex and that is the only part of the brain that is processing our all vision. Wrong.

Visual cortex brings the vision together, but it is not only part of the brain that processes the image; the image of the person. There 30 to 50 different parts of the brain processing something that I am looking at. And it is all these different bits of the brain are working independently, that is what the scientists have concluded. And this is the conclusion of one of the most famous brain scientists Dr. Wolf Singer. He is the director of the Max Planck Institute for Brain Research, and he is presenting a talk here, you will see him, presenting a talk to Dalai Lama, explaining about the mind, coming to this conclusion there is no seat of “Self” in the brain. **Simply put there is not one part of the brain or area of the brain that we can point to and say this is where the “Self” arises.** No. Because the brain processes every image through 30 to 50 different pieces, parts, bits. If it is a visual image it is 30 to 50 different parts. If it is sound then it is another different 30 to 50 different parts of the brain processing the sound, similarly with taste and touch. So all in there are hundreds different parts of the brain processing one experience. I am interacting with one person, that interaction is being processed by hundreds of parts of the brain all over the brain, each part acting independently. And there is not one part which we can point to or a group of parts we can point to and say “Ah, this is where the “self” arises”, and this is the conclusion of the scientist.



<https://www.youtube.com/watch?v=dnyFL4Hj6no>

40:12



So there you have it the conclusion. The below slide is better.



MAX PLANCK INSTITUTE FOR BRAIN RESEARCH



- The Brain is a highly distributed, dynamic system that lacks a singular convergence center;
- There is no co-ordinator;
- There is no observer;
- There is no seat of the "self".



*Dr Wolf Singer, Director
Max Planck Inst. For Brain Research*

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ANATTA: FROM A SCIENTIFIC PERSPECTIVE

(1) The brain is a highly distributed, dynamic system that lacks a singular convergence center. What does that mean? That means there is no one part of the brain that brings all this information together. The brain is operating with hundreds of different parts of the brain, each part operating independently. There is no one part that brings all this together. (2) And there is no co-coordinator, so there is no part of the brain that is like a conductor of the orchestra telling the different parts of the brain "You do this, you do this, and you do this". No. Every single part is acting independently, but somehow all these independent actions and activities in the brain can manage to produce thoughts and images. (3) And there is no observer; in another word, there is no part of the brain that can actually check itself to see if this is happening or is that happening. There is no monitor so to speak, a person in charge, there is no person in charge in your brain. (4) And most importantly, his conclusion, because of all of this distributed dynamical system, each part operating independently; there is no seat of the "Self". There is no part of the brain you can point to and say this is where the "Self" resides. And here you have it from one of the world most famous brain scientist Dr Wolf Singer director of Max Planck Institute for Brain Research.

These are neuro-scientists; scientists who specialize in investigating and experimenting with brain activities, not psychologists or philosophers, who come up with all kinds of ideas. They actually speak out of scientific experimentation and research.

Now you have a different scientist explaining that. Now we go back to Antonio Damasio. He went on to further explain about this idea of the “Self”. And this in fact the most crucial piece of evidence from the scientist to explain how “Self” arises. And he explains consciousness, and here you have a good definition of consciousness. Consciousness is not just being aware of something happening. Not just having images of something out there. Consciousness is the understanding that there is a world out there that you interact with, and there is some kind of a “Self” in here. That is the level of consciousness that the brain scientists are talking about, not just being aware of some objects or visions out there. So he is explaining how this “Self” arises in the process of consciousness.





<https://www.youtube.com/watch?v=dnyFL4Hj6no>

44:36

1. a mind, which is a flow of mental images

2. a self

a conscious mind is *a mind with a self in it*

a self introduces a subjective perspective in the mind

we are only fully conscious when self comes to mind

we need to know:

- 1. how minds are put together, and**
- 2. how selves are constructed**

the solution:

we generate brain maps of the body's interior and use them as the reference for all the other maps.

The “Self” arises because we have this body and we create brain maps of the body. Let’s re-examine what he has said.

He says mind is a continuous flow of mental images. Here mental images are not referring only to visual images; he is also referring to sound images. Sound is the kind of image in the head. Also taste, smell, touch, tactile all of these are images of the mind.



WHEN SELF COMES TO MIND



1. Mind – continuous flow of mental images;
2. A conscious mind is a mind with a “self” in it;
3. The self introduces a subjective perspective in the mind;
4. We are only fully conscious when self comes to mind;
5. We need to know:
 - i. How minds are put together in the brain;
 - ii. How selves are constructed;
6. We generate brain maps of the body’s interior, and uses them as a reference point for all other maps of the world;
7. The body and the experience of the body becomes the reference point for the self.

Antonio Damasio



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So basically the mind is continuous flow of all these images from interaction with the environment. And a conscious mind, he has defined a conscious mind or consciousness, per se, a conscious mind is a mind where there is a “Self” in it. He is not saying the “Self” exists, but he says that there is a “Self” in the mind inside the mind. He is not saying it physically exists; he says there is a “Self” inside the mind, so “Self” is a mental construct and the “Self” introduces a subjective perspective in the mind. Subjective meaning “Me”, “I”, “Myself”, so in another word it only relates to what is within the mind subjective not objective. Objective is out there; subjective is in here. So the “Self” introduces this subjective perspective, and this is what the scientists are saying. He is one of the top brain scientists in the world. And he says we are fully conscious when “Self” comes to mind. In another word, he is defining consciousness to be state of mind, where there is a “Self” that arises, that we become conscious of our environment and our “Self” the subjective, the objective. And he says we need to know 2 things: (1) firstly, how the minds are put together; (2) and secondly how the “Selves” are constructed.

We have already covered earlier on how mind is put together with the perception, cognitive activities, Cognitive Process, Affective Process, biochemical reactions. That is basically how the mind puts together all this information. But the next point he is pointing out is how this “Self” is constructed. In another word, how does our mind create the idea of a “Self”, and he went on to say it's because we generate brain maps inside the brain. We generate maps of various parts of the body; in another word, your brain has a map of every part of your body. Try this you close your eyes, you raise your hand, and you know where your hand is because your brain has a map of every part of your body. There is no such thing as you close your eyes, just because you close your eyes you can't see your hand and you don't have any idea where your hand is. That doesn't happen. So basically because of the map that is created of every part of your body inside your brain, you have a map and that is how you relate to yourself. And we use this map unconsciously. We use this map to relate to the world out there for all the other maps of the world. Everything else that happens out there, we use this map to try to relate to it. And therefore the body and the experience of the body becomes the reference point for the “Self.”

There you have it. One of the world's top brain scientists has explained it. It is the body and the experience of the body that give rise to this idea we have a “Self” in the mind. So firstly “Self” is a mental construct. Secondly, “Self” arises because of the body and the experience of the body. That's what the scientist has said. Amazingly that is what the Buddha had said also, long before the scientist said this.

So now we go on I am going to show to you that is this scientific experiment that proves to you we are capable of personalizing. So here is the experiment where they are actually putting a fake arm on the person and doing something to make that person think this arm is his, and somehow they personalize the arm.



<https://www.youtube.com/watch?v=dnyFL4Hj6no>

52:04

So you can see even the fake hand, people think it is their own hand because it is made to make him feel as though it is his hand, so we actually our mind actually tries to personalize that, that is really what happened. That process cannot be avoided, the attempt to personalize that hand as mine, mine own.

Now we go the opposite way, something happens out there so to speak and you will find people doing the opposite, alienating the objective, "Oh! That is not me, not me, not me!" even though they were responsible for doing it. They would push it away because of this fear of losing face, so they have this, alienating the objective, something out there they push it away. So here is the supermarket where they have rigged something to fall down when somebody touches it.



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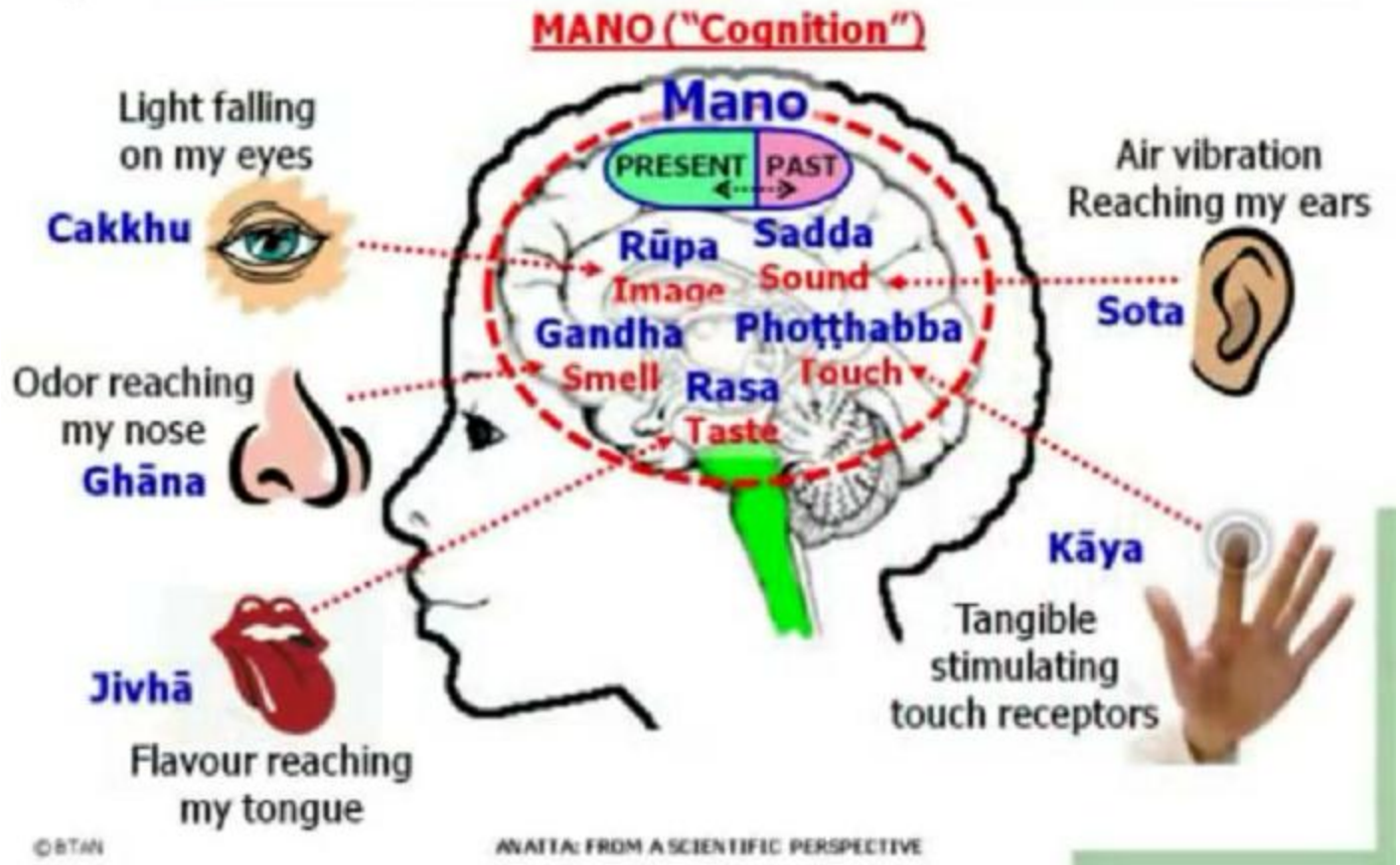
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So there is an example that when something happens out there we push it away, "It's not me! It's not me!" And yet when there was this arm attached to the body, "Oh! That is my hand. It hurt!" But actually it was a fake arm. So these are very simple experiments that basically prove the notion of personalization of what is subjective and alienating what is objective.

So now let's take a look at this whole thing from the Buddha Dhamma perspective. What did the Buddha say about all this personalization; how the "Self" arises. We have six senses and five of them are the physiologically senses, and the sixth is the *mano*, which is the cognition, the sense of cognition that helps us to think.



SIX SENSUAL REALMS (*Salāyatana*)



And we process cognition by referring to the past, and the past affects the present, the present affects the past. It's a two directional effect. And with that of course we have with these six senses, we have this whole process of "*Pānca-khanda*", the 5 aggregates arising.



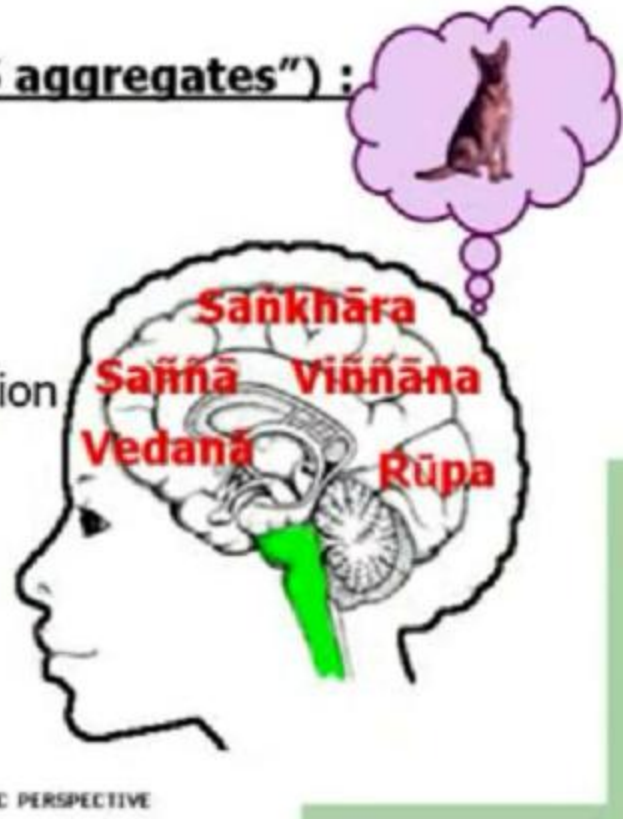
THE PROCESS OF PERCEPTION



PAÑCA-KHANDHA

THE 5 CUMULATIVES ("the 5 aggregates") :

1. **Vedanā** – Feeling
2. **Saññā** – Sensation
3. **Saṅkhāra** – Mental Construction
4. **Viññāna** – Perception
5. **Rūpa** – Mental Image



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The presenter is not going into explaining about the 5 aggregates, the presenter is just going to mention the 5 steps, but very important to what we are going to talk about is the first two. Whenever something triggers the senses, we have a sensation. The sensation of something happening, something stimulating our sense organ, that sensation is called “*Saññā*”. And with that sensation, at the same time there is a feeling, whether it is pleasant, unpleasant, or neutral. And that feeling is called “*Vedanā*”. So we are just going to focus on these two. The presenter won't go deep into the “*Pāñca-khandha*”.

So in another word, sensation is sensing a stimulation. “*Vedanā*” is the feeling of that stimulation, whether it is pleasant, unpleasant, whether the surface is hot or not hot that hurts us. “*Saññā*” and “*Vedanā*” are inseparable. They happen at the same time, you cannot have one without the other. You can't have a “*Saññā*” and there is no “*Vedanā*”. You cannot have “*Vedanā*” and there is no “*Saññā*”. They both go together and they happen at the same time. There is no such thing as one precedes the other.

So with this “*Pānca-khanda*” when the environment stimulates our senses, the “*Pānca-khanda*” arises. And the perception is formed, “*Viññāna*”.



PROCESS OF EXPERIENCE



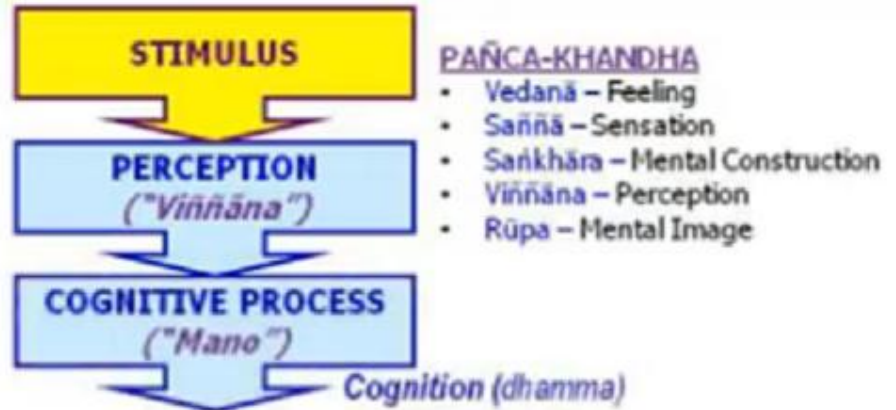
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Now you will find in a lot of the texts the word "*Viññāna*" has been translated to the word "Consciousness". But it is not. You have heard earlier on the scientific explanation of "Consciousness". "Consciousness" is where the "Self" arises. So the translation of "*Viññāna*" to the word "Consciousness" is scientifically incorrect. So it is really "Perception". "Perception" is the idea there is something I have just experienced, and this "Perception" needs to be interpreted, so the Cognitive Process is a rational process that interprets what is this by drawing on past memory, "*Mano*". The process is "*Mano*", drawing on the past memory to interpret what is this.



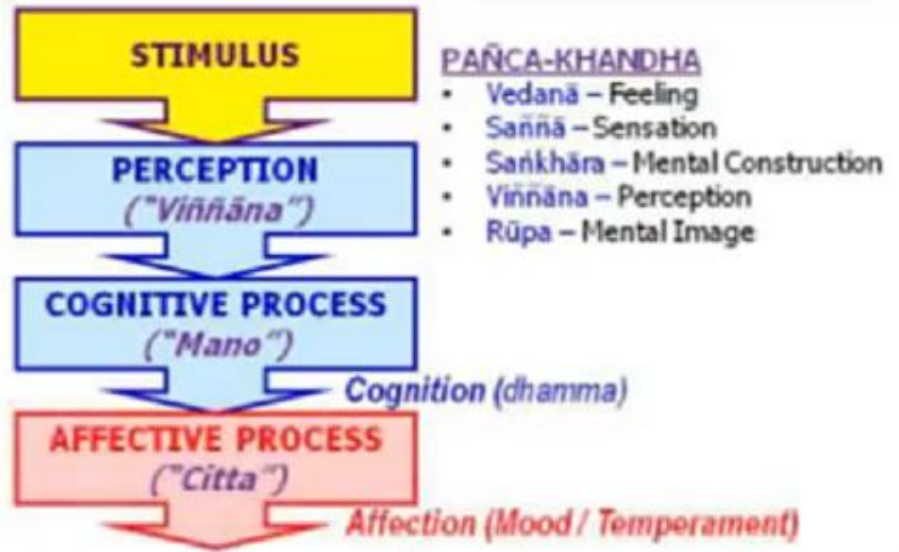
PROCESS OF EXPERIENCE



But at the same time the Affective Process arises. The “*Citta*” arises to try to interpret how it affects me, whether it is pleasant or unpleasant, and so on.



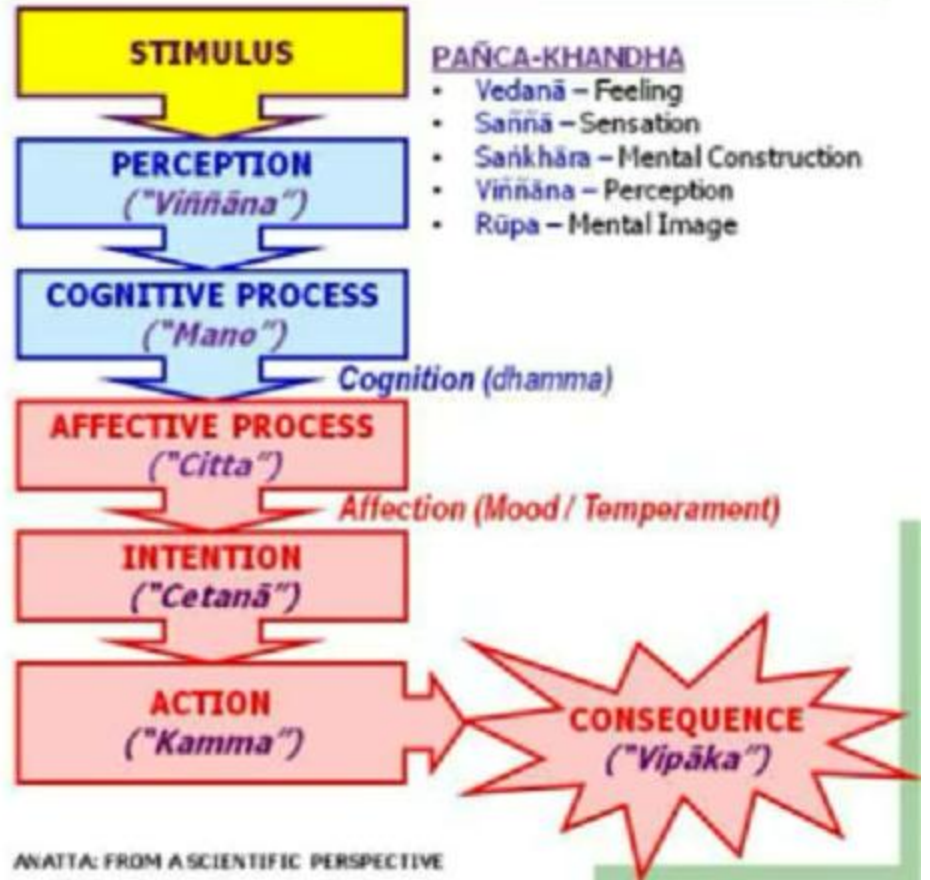
PROCESS OF EXPERIENCE



And then we have this intention to do something about it.



PROCESS OF EXPERIENCE



So going back to this “Looking at the dog”; when the light bounces into the eye, reflected from the dog enters the eye, it stimulates the sense organ which is the eyeball, the retina, and that sends messages to the brain and then if we are paying attention, then the brain begins to process and the mind has this Process of Perception arising. And this image is form.



The Experience of "Seeing"



- Experience arises dependent on the presence of necessary conditions:



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And this is the time when our emotional our “*Citta*” begins to try to personalize it, to try to personalize this experience. What really happens there is purely is an experience. Everything is experiential. Everything that is happening around us is just a continuous flow of experience and yet we try to personalize it. We try to personalize it with this idea that "Oh! We have seen something out there", in the mind we create the idea there is something out there.



The Experience of "Seeing"



- Experience arises dependent on the presence of necessary conditions:



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ANANTA: FROM A SCIENTIFIC PERSPECTIVE

At this breaking into the idea that there is something out there, not realizing it's only in our mind that is dichotomization, dichotomy. Something out there is objective; in here is the subjective. So that is really continuously happening. And how does that happen? This emotional reaction; it happens because of "Saññā" and "Vedanā". "Saññā" is the sensation.



EMOTIONAL REACTION (Taṇhā)



- **Saññā** (sensation) leads to the arising of the cognitive process
 - Giving rise to the awareness/perception of “the objective world”
 - Giving meaning to what has been perceived

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This sensation leads to the arising of the Cognitive Process. And this Cognitive Process gives rise to the awareness or the perception of this objective the world out there. And it gives meaning to what has been perceived. So “*Saññā*” leads to the arising of the idea of the objective world out there. “*Saññā*” gives rise to this cognitive process.



EMOTIONAL REACTION (*Taṇhā*)



- **Vedanā** (feeling) leads to the arising of the affective process
 - Giving rise to emotional reaction (*tanha*) or “subjective experience”
 - Pleasant sensation: **Lobha** (lust/greed) – **kamma tanha**
 - Neutral sensation: **Moha** (delusion of existence) – **bhava tanha**
 - Unpleasant sensation: **Dosa** (ill-will/hatred) – **vibhava tanha**

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ANATTA: FROM A SCIENTIFIC PERSPECTIVE

“*Vedanā*” is the feeling and that gives rise to the Affective Process. And this Affective Process, what does it do? It gives rise to the emotional reaction, “*Taṇhā*”. Or we call this subjective experience. So basically “*Vedanā*” leads to subjective experience within. And the subjective experience is where there is something pleasant, unpleasant, or neutral.

If it is pleasant, then we have this “*Lobha*” arising, the lust and the greed for something pleasant. And this is the reaction “*Kamma Taṇhā*”, the reaction; the reaction to sensation or sensual pleasures.

If it is something neutral, it gives rise to the idea of a delusion of an existence. And this is “*Bhava Taṇhā*”; the idea that we exist.

If it is something unpleasant, we want to get rid of it. And that leads to “*Dosa*” ill-will, hatred wanting to get rid of it and this is “*Vibhava Taṇhā*”.

So basically these are the things that arise in the mind because of “*Vedanā*”. The reaction comes from “*Vedanā*”. The reaction is called *Taṇhā*.

And when that arises we begin to personalize the experience. This personalization process is called “*Upādāna*” and we try to personalize the subjective experience and called it “Mine”. Something inside is “Mine”; “My feeling.” You know you knock your hand against the wall you never and then it feels painful. You never say “That hand is feeling painful.” You never say that what you say, “My hand is feeling painful.” Yeah? Sometimes we even go further than that; we even try to personalize our car “Oh! My car! Don't touch my car!” “Don't play with my phone!” You know we personalize so many things we even personalize more than what is in the body; that is how bad it is getting today. But here we are personalizing the subjective experience and this subjective experience is the experience of the body, and the senses. And this creates a notion there is an “I”, “Mine”, “I”.



EMOTIONAL REACTION (*Taṇhā*)



- **Upādāna** (personalization) of the “subjective experience” (“mine”)
 - Creating the notion of “I” (bhava/existence);
 - Body and its experience is perceived to exist in space (spatial existence) and in time (temporal existence);
 - The “past” began with birth, the “future” ends in death, and the “present”/“transition” is aging and decay;

And then this “I” concept gives rise to the idea of existence “*Bhava*”. So the body and the experience are perceived to exist in space. Because of this notion of existence, it occupies space and then it is called a Spatial Existence. And it also gives rise to the concept there is a time involved and then it is temporal existence. So the time part, temporal existence, the past as far the body is concerned, the past began when I was born. And the future ends when I die. So basically between birth and death, there is an idea of existence. And along the way the transitional process, the transitional experience we personalized it as the presence, which is the stage of aging and decay. Basically that is how we create this idea of the “Self” this “I” exist; existence the idea of this subjective “Self”. And the idea of there is an objective world out

So in nutshell, how the “Self” arises, that is the subjective “Self”, which is the “*Atta*”, came to being when this emotional reaction to sensations led to the personalization, “*Upādāna*”, of the reaction as “Mine”. And then we alienate what is out there, the world out there, the “*Loka*”, “It’s not mine.” And subjective is personalized; the objective is alienated. And that gives rise to the notion of existence, a “Self” existing in the world, and this is existential thinking.

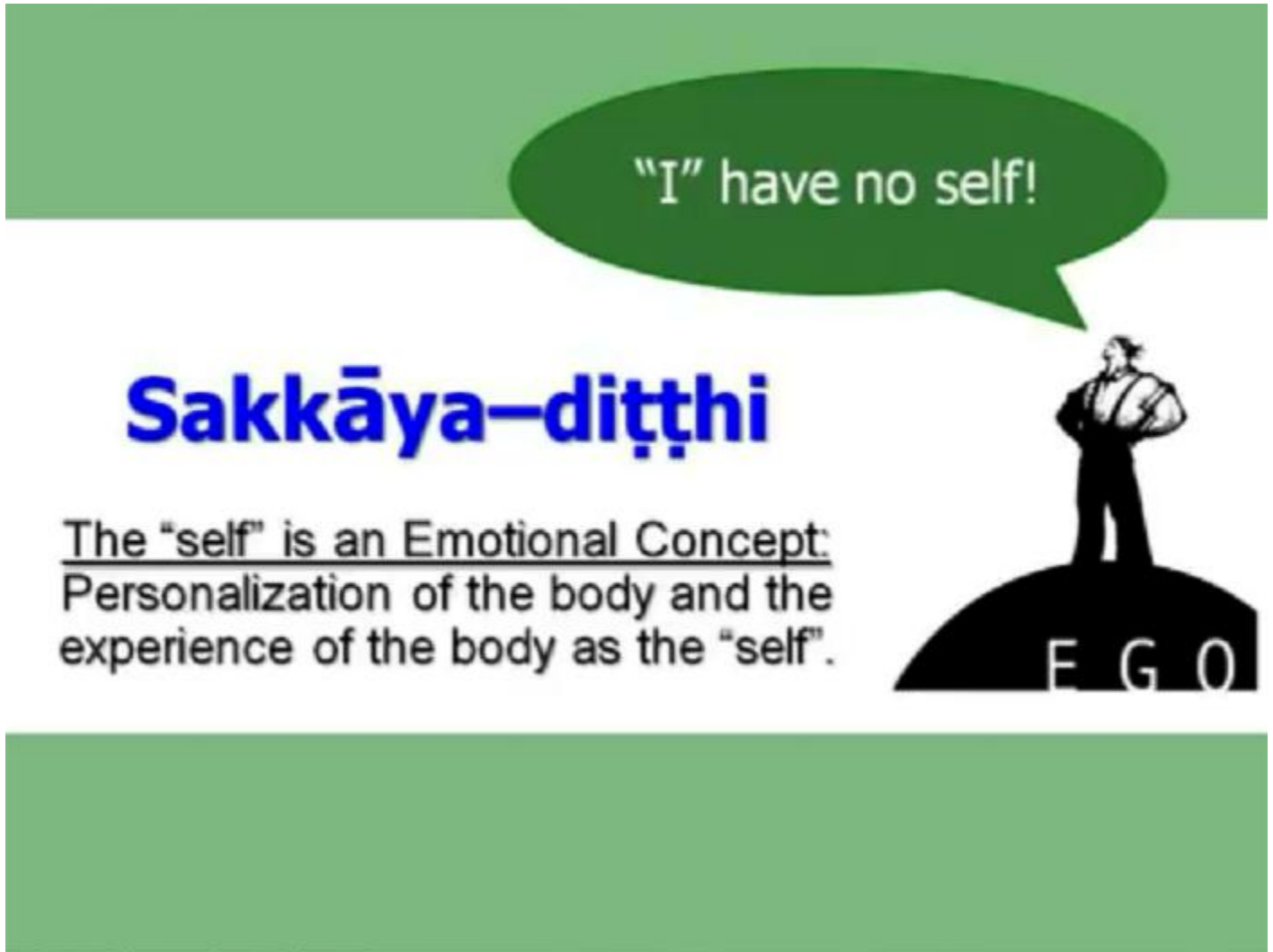


HOW THE “SELF” ARISES



- The Subjective Self (*Atta*) came into being when emotional reaction (*Tañhā*) to sensations led to personalization (*Upādāna*) of the reaction as “mine” and alienating the Objective World (*Loka*) as “not mine”;
- Subjective (*Upādāna*) is personalized;
- Objective (*Anupādāna*) is alienated;
- Giving rise to the notion of being Self (*Atta*) in the World (*Loka*) – “**Existential Thinking**” (*Bhava*).

And this why people who think they have done away with “*Sakkāya-diṭṭhi*”, you know what do they say "Oh! I have no Self".



So basically “*Sakkāya-diṭṭhi*” is referring to the simple notion that we try to personalize and own this bodily experience, but the reality is this “Self” is an emotional concept, and because of the personalization of the body, the experience of the body as the “Self”.

So the presenter hopes the audience understood largely from the scientific perspective how the “Self” arises and hopefully from the Buddha Dhamma perspective, how the “Self” arises. The two are basically consistent. Modern scientists, the presenter is not talking about philosophers and psychologists who come up with ideas of their own; the presenter is talking about the scientists who do research and investigation such as Antonio Damasio and Dr. Wolf Singer. They arrive at the conclusion how this “Self” arises and it is fully consistent with the teachings of the Buddha.